

### REMARKS

Applicants respectfully request reconsideration of this application, and reconsideration of the Office Action dated September 4, 2003 (Paper No. 10). Upon entry of this Amendment, claims 1-12 will remain pending in this application. Claims 1-6 are currently withdrawn. The changes to the claims are fully supported by the specification and original claims. No new matter is incorporated by this Amendment.

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Claims 7, 8, 11, and 12 are rejected under 35 U.S.C. §103(a) as purportedly obvious based on Taylor et al. (LPCVD of Silicon Nitride...) in view of Mizuno et al. (U.S. Pat. No. 6,486,083) and Applicant admitted art. Applicants respectfully traverse.

Independent claim 7 (from which claims 8-12 depend) has been amended to recite that the method steps are performed in a particular order. Specifically, the method of claim 7 begins with forming the silicon nitride film on the workpiece. It continues with the supplying of ammonia into the reaction vessel after completion of forming the silicon nitride film. Then, discharging ammonia from the reaction vessel into the exhaust pipe, and reacting the ammonia with a Si-Cl-N-H compound remaining in the exhaust pipe are performed to produce a Si-N-H compound to pre-clean the inside of the exhaust pipe.

As a result of the claimed method, the Si-Cl-N-H compound formed in the exhaust pipe during heat treatment reacts with the ammonia to effectively pre-clean the exhaust pipe. This occurs after completion of the heat treatment. None of the cited documents, even when combined, teach or fairly suggest at least this feature of claim 7.

The Office Action concedes that Taylor fails to teach discharging ammonia from the reaction vessel into the exhaust pipe to pre-clean the exhaust pipe. The Office Action cites Mizuno for teaching this feature. However, although Mizuno discloses that ammonia gas is discharged from the charging port while BTBAS is stopped. The ammonia gas is charged from the charging port (in to order to improve the quality of the

film on the wafer) during heat treatment. See Column 5, Lines 56-67. As such, to those of ordinary skill in the art, Mizuno teaches that the ammonia gas is charged from the charging port during the heat treatment. In contrast, as explained above, in the present invention, ammonia is supplied into the reaction vessel after completion of forming the silicon nitride film on the workpiece, in order to preclean the inside of the exhaust pipe. Accordingly, even when combined, the cited documents fail to teach or fairly suggest each and every feature of independent claim 7. Furthermore, there is nothing in the cited documents which would motivate one of ordinary skill in the art to modify the combined methods of the documents to supply ammonia into the reaction vessel after completion of the treatment (forming the silicon nitride film on the workpiece). Accordingly, the combination of Taylor, Mizuno, and the Applicant admitted art fails to render the claimed invention obvious.

The above remarks overcome this rejection. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

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Claims 9 and 10 are rejected under 35 U.S.C. §103(a) as purportedly obvious based on Taylor et al. in view of Mizuno et al. and Applicant admitted art, and further in view of Saito et al. (U.S. Pat. No. 6,159,298). Applicants also respectfully traverse this rejection.

The deficiencies of Taylor, Mizuno, and the Applicant admitted art are discussed above. Saito fails to remedy these deficiencies. None of the cited documents teach or fairly suggest supplying ammonia into the reaction vessel after completion of forming the silicon nitride film on the workpiece in order to preclean the inside of the exhaust pipe. Furthermore, there is nothing in the cited documents which would motivate one of ordinary skill in the art to modify the combined methods of the documents to

supply ammonia into the reaction vessel after completion of forming the silicon nitride film on the workpiece.

The above remarks overcome this rejection. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

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Applicants respectfully submit that this Amendment and the above remarks obviate the outstanding rejections in this case, thereby placing the application in condition for immediate allowance. Allowance of this application is earnestly solicited.

If any fees under 37 C.F.R. §§1.16 or 1.17 are due in connection with this filing, please charge the fees to Deposit Account No. 02-4300; Order No. 033082.119.

If an extension of time under 37 C.F.R. §1.136 is necessary that is not accounted for in the papers filed herewith, such an extension is requested. The extension fee should be charged to Deposit Account No. 02-4300; Order No. 033082.119.

Respectfully submitted,  
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